Lat 40.62797 Lon -120.85819

United States Department of Agriculture | Forest Service | Forest Pest Management | 55 So. Sacramento Street Susanville, CA 96130 916-257-2151 VOICE 916-257-6244 TTY

File Code: 3420

Date: May 6, 1996

Subject: Biological Evaluation of Declining Incense-cedars near Whaleback Mountain (Report NE96-4)

To: Eagle Lake District Ranger, Lassen National Forest

At the request of Don Dockery and Ricky Crowther, I conducted a field evaluation of declining and dying incense-cedar on April 26, 1996. We visited two areas to the west and north of Whaleback Mountain along Hwy A-1 (see attached map.) The objective of the visit was to determine what was causing the incense-cedar decline and to discuss if marking guidelines should be developed to include these trees in future salvage sales. Direct tree mortality as a result of insect attack is not common in incense-cedar, however, an increase in cedar mortality has been noted in northeastern California over the past few years. This increase in mortality is primarily from drought stress although wood borers and other bark beetles may be involved secondarily.

The incense-cedar in the area we visited have been on the decline for several years, particularly those in the larger size classes. This was evidenced by the presence of several snags, trees with older dead tops, and many trees with limited amounts of remaining live crown. The first tree observed had no remaining live crown. Round headed borer larvae and galleries were found near the cambium around the base of the tree. The second tree we examined appeared to have a yellowing, off-color, crown. This tree was felled to determine if any insects were present in the top of the bole. It was decided that this color characteristic may be inherent in some trees as the cambium layer appeared quite healthy and moist and no signs or symptoms of insects and diseases were found. Some small size trees in the area (< 5 in DBH) had been attacked and killed by cedar bark beetles, Phloeosinus sp. These bark beetles are not aggressive in their attack and are often found working under the thin bark portions of trunks, tops and limbs of weakened and/or dying trees.

Incense-cedar can be found growing under a wide variety of environmental conditions. Although considered to be somewhat drought tolerant, an increase in mortality should be expected during protracted periods of below normal precipitation. The decline of the incense-cedars is likely the result of multiple factors including moisture stress over the past 10 years. The increased stress in the trees has resulted in crown dieback in the larger size classes and whole tree mortality in small trees.

Many of the trees we examined have varying amounts of older top kill. These spike top trees may live for several more years depending upon environmental conditions. Based on the current trend of cedar decline in the area additional trees should be expected to decline and die until precipitation regimes return to normal for several consecutive years. The incense-cedar in the area are

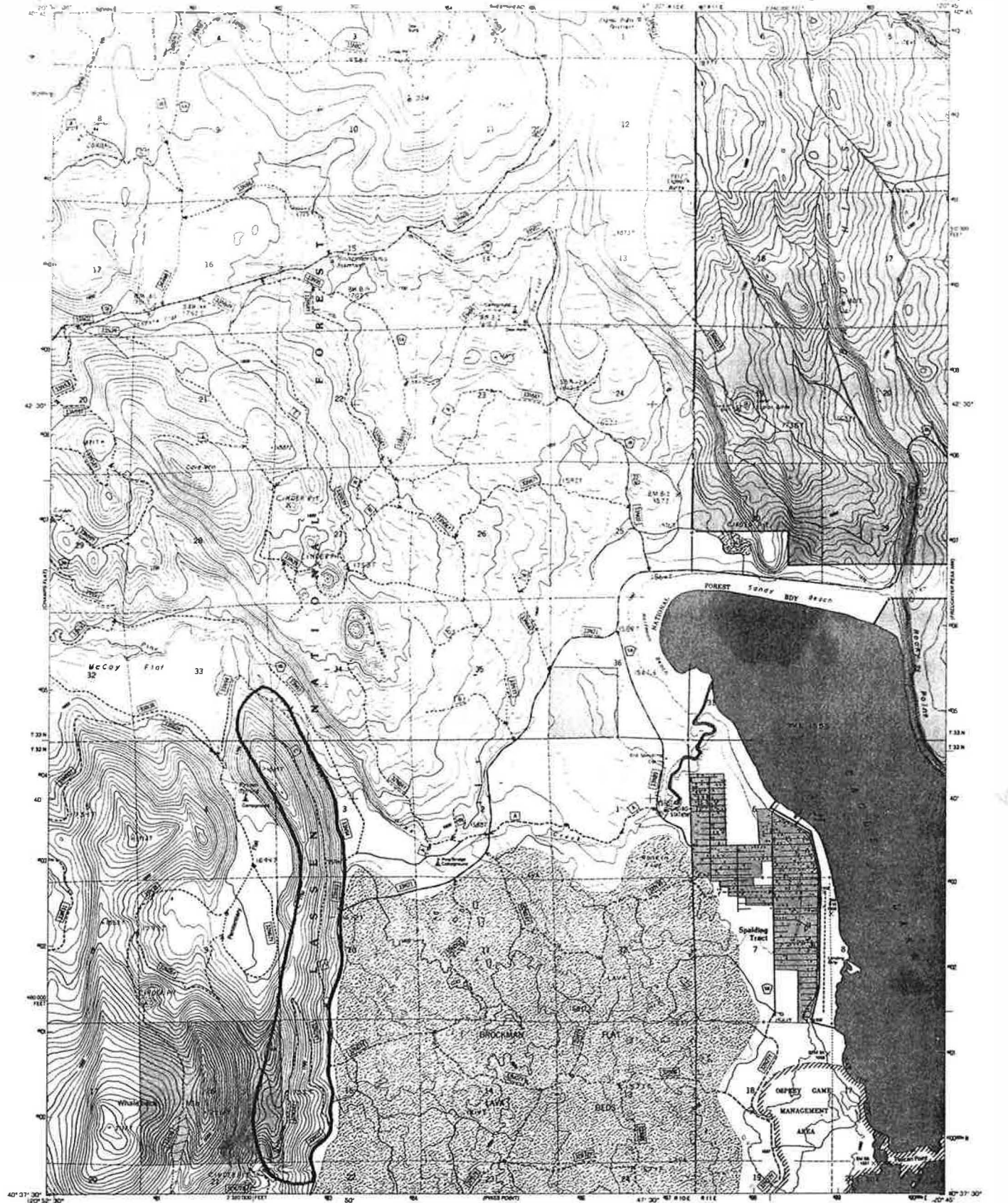
contributing to the limited species diversity and the snags and spike top trees may provide some benefits to wildlife species. Determination of how many of these types of trees/acre are desired should be based on management objectives for the area. When developing salvage marking guidelines for cedar it should be noted that this species can survive long periods of time with limited live crown.

If you have any questions regarding this evaluation or request additional assistance please contact Sheri Smith at 916-257-2151 ext. 6667.

Sheri Smith
Entomologist
NE CA Shared Service Area

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
MODIFIED FOR USDA FOREST SERVICE USE

SPALDING TRACT QUADRANGLE
CALIFORNIA—LASSEN CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



PROVISIONAL BASE MAP PREPARED BY THE U.S. GEOLOGICAL SURVEY

CONTROL BY ..... USGS, NOAA/NOAA, U.S. FOREST SERVICE
COMPILED FROM AERIAL PHOTOGRAPHS TAKEN 1986
FIELD CHECKED ..... 1986 MAP EDITED 1986
PROJECTION ..... UNIVERSAL TRANSVERSE MERCATOR
GRID: 1000-METER UNIVERSAL TRANSVERSE MERCATOR ... ZONE 10
10,000-FOOT STATE GRID TICKS ..... CALIFORNIA, ZONE 1

VERTICAL DATUM: NATIONAL GEODETIC VERTICAL DATUM OF 1929
HORIZONTAL DATUM ..... 1927 NORTH AMERICAN DATUM
To place on the predicted North American Datum of 1983, move the projection lines as shown by dashed corner ticks (17 meters north / 29 meters east)
Modification to USGS base map by the Geomatronics Service Center from 1988, 83, 87 aerial photography and 1987 instruction guides furnished by the Pacific Southwest Region.
Landnet revised according to additional Forest Service evidence

UTM GRID AND 1987 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET

CONTOUR INTERVAL 10 METERS
SUPPLEMENTARY CONTOUR INTERVAL 5 METERS

- National Forest Boundary
- Attributed Lands

TOWNSHIP AND SECTION LINE CLASSIFICATION
- Surveyed, Location Reliable
- Surveyed, Location Approximate
- Unsurveyed, Protraction

- Primary Highway
- Secondary Highway
- Improved Road, Paved
- Improved Road, Gravel
- Improved Road, Dirt
- Unimproved Dirt
- Trail
- Road, Location Approximate

- Interstate
- U.S. Highway
- State Highway
- County Road
- Primary Forest Route
- Forest Road
- Forest Trail
- Gate

ADJACENT QUADRANGLE LOCATION DIAGRAM

040-3	040-4	039-3
041-2	041-1	040-2
042-3	042-4	041-3

SPALDING TRACT, CALIF.
PROVISIONAL EDITION 1988
N4037.5—W12045/7.5
041-1
REVISED 1987